

Please enter the following new claim:

D⁴ -- 24. A pressure sensitive adhesive composition according to Claim 15, wherein the at least one ethylene/alkyl (meth)acrylate copolymer (A) is octyl acrylate. --

REMARKS

In the Specification

The Office Action brings the attention of applicants to a typographical error on page 2, line 23 of the application regarding the phrase "ethylene/alkyl meth(acrylate)." Applicants believe that the Patent Office has or is looking at an incorrect/defective translation of the PCT application. Applicants bring the attention of the Patent Office to an Office Communication titled "Notice of Defective Translation" indicating that the translation of the application is defective. (A copy of the communication is attached for the Examiner's convenience.) The title of the incorrect/defective translation of the application was "Pressure-sensitive adhesive which can be applied while hot." Applicants do not have a clear record of when the corrected translation was submitted, however, the filing receipt identifies the title of the correct translation which is "Hot-melt adhesive based on a copolymer of ethylene and of an alkyl (meth)acrylate." (A copy of the filing receipt is attached for the Examiner's convenience.) Thus, the Patent Office should have a copy of the correct translation of the application. (A copy of the correct translation is also attached for the convenience of the Examiner.) Applicants request the substitution of the correct translation of the application for the incorrect one if the incorrect version is present in the official file. The correct translation does not contain the alleged typographical error.

Applicants respectfully decline to amend the specification with respect to the explicit incorporation of material from foreign references and publications. Those materials are not essential materials, and are known in the art. Thus, their incorporation by reference is proper, e.g., as discussed in MPEP § 608.01(p), which states in part that "nonessential subject matter may be incorporated by reference to (1) patents or applications published by the United States or foreign countries or regional patent offices, (2) prior filed, commonly owned U.S. applications, or (3) non-patent publications."

Claim Rejections under 35 USC § 112, first paragraph

The claims were rejected for containing the phrase “non-reactive” as the phrase modifies pressure-sensitive hot-melt adhesive. The examiner alleges that a negative limitation requires explicit antecedent basis in the specification based on *Ex parte Grasselli*, 231 USPQ 393 (1986). Applicants respectfully disagree. The Board in *Ex parte Grasselli* held that the “negative limitations in the present claims, which did not appear in the specification as filed, introduce new concepts and violate the description requirement of the first paragraph of 35 USC 112.” The Board in *Ex parte Grasselli* did not make an over-the-board general rule, but made clear that one has to consider the claims in each case prior to making a determination. The MPEP in section 2173.05(i), titled “Negative Limitations” states that a “lack of literal basis in the specification for a negative limitation may not be sufficient to establish a *prima facie* case for lack of descriptive support. *Ex parte Parks*, 30 USPQ2d 1234 (BPAI 1993).” *Ex parte Parks* holds that

“In rejecting a claim under the first paragraph of 35 U.S.C. 112 for lack of adequate descriptive support, it is incumbent upon the examiner to establish that the originally-filed disclosure would not have reasonably conveyed to one having ordinary skill in the art that an appellant had possession of the now claimed subject matter. *Wang Laboratories, Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993). Adequate description under the first paragraph of 35 U.S.C. 112 does not require literal support for the claimed invention. *In re Herschler*, 591 F.2d 693, 200 USPQ 711 (CCPA 1979); *In re Edwards*, 568 F.2d 1349, 196 USPQ 465 (CCPA 1978); *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). Rather, it is sufficient if the originally-filed disclosure would have conveyed to one having ordinary skill in the art that an appellant had possession of the concept of what is claimed. *In re Anderson*, 471 F.2d 1237, 176 USPQ 331 (CCPA 1973).”

Applicants have clearly conveyed to one having ordinary skill in the art that applicants had possession of the concept of what is claimed. Applicants claim is directed to a “non-reactive” pressure-sensitive hot-melt adhesive. One of ordinary skill in the art clearly would understand that a hot-melt adhesive is non-reactive unless taught to the contrary. Applicants bring the attention of the Examiner to Uchigaki et al., US 3,931,007, a reference over which a section 103 rejection is issued in the present Office Action. Uchigaki provide a thorough discussion of the prior art of hot-melt adhesives and reactive adhesives. Uchigaki teach that the “prior art has recognized two types of adhesive compositions; hot melt-type adhesive

compositions and reactive-type adhesive compositions.” See column 1, lines 11-13. Thus, one of skill in the art would understand that the reactive adhesives and hot-melt adhesives are two different and distinct types of adhesives. Thus, stating that a hot-melt adhesive is non-reactive is nothing more than explicitly making clear what one of skill in the art would clearly understand to be conveyed by the terms “pressure-sensitive hot-melt” alone. Uchigaki also teach that the two types of adhesives are used in different circumstances. “The hot melt adhesive compositions provide instant adhesive strength upon cooling after bonding so that the workability of the bonded product is excellent. However, they have disadvantages of low adhesive strength at elevated temperatures because of their rheological characteristics. In order to obtain high heat adhesive strength at elevated temperatures, it is conventional to use reactive or curable adhesive compositions. However, the initial adhesive strength of such compositions is weak because the time for reactive curing is too short, consequently high instant adhesive strength cannot develop as with hot melt-type adhesives.” See column 1, lines 14-26. Uchigaki teach that “it has previously been impossible to obtain [a reactive hot melt-type adhesive composition.]” See column 3, lines 14-15 and lines 1-13. A reactive type hot-melt adhesive is the exception to the rule. Thus, reciting in the claims that the hot-melt adhesive is “non-reactive” is not new matter.

Reconsideration of the rejection is respectfully requested.

Claim Rejections under 35 USC § 112, second paragraph, and Claim Amendments

The claims were amended to correct the noted typographical errors in claims 17 and 20 and to attend to the improper dependence of claim 20 on claim 17. A typographical error is also corrected in claim 23. New claim 24 is also added. Support can be found, for example, on page 9, lines 10-12. No new matter is added.

With respect to the term “derivatives,” applicants chose not to amend the claims. The Office Action cites two cases, none of which are decided by the Federal Circuit, in support of the proposition that the term “derivatives” is indefinite. The Federal Circuit does have an opinion on this issue, and its opinion is that no over-the-board rule applies in cases where the term “derivatives” is used. See *In re Anderson*, 176 USPQ 331 (CCPA 1973), where the court specifically distinguished the situation from *Austenal Labs., Inc. v. Nobilem Processing Co. of Chicago*, 153 F.Supp. 709, 115 USPQ 44 (DC ND Ill: 1957), cited against applicants, stating with respect to a class of “cellulose derivatives” that they have been sufficiently exemplified to provide an *enabling* disclosure. The terms “rosin derivatives” and “polyterpene derivatives” in

the present claims are sufficiently described to provide and enabling disclosure. Applicants teach on page 10, line 9 that rosin esters and hydrogenated rosin fall within the scope of rosin derivatives. The specification also teaches that other examples of rosin derivatives are described in Ullman's, citation omitted here. See page 10, lines 18-20. Further, the specification on page 10, lines 22-27 teaches rosin derivatives obtained by "hydrogenation, dehydrogenation, polymerization or esterification. These derivatives can be used as is or in the form of esters of polyols, such as esters of pentaerythritol, polyethylene glycol and glycerol." Thus, one of ordinary skill in the art would understand the meaning and scope of the terms as it fits the claims of the present invention. Thus, the claims containing these terms are not indefinite under *Anderson, supra*.

The First Claim Rejection under 35 USC § 102 and 103

Applicants first chose to discuss the rejections over Uchigaki et al., US 3,931,007, because this reference was discussed above.

Claims 1-4, 6, 7, and 9-23 were rejected as allegedly anticipated by or in the alternative obvious over Uchigaki. Applicants respectfully disagree.

Uchigaki teach a "reactive hot-melt adhesive composition." The claims of the present invention are drawn to a non-reactive hot-melt adhesive. The two are clearly not the same, indeed are opposite in their nature to react or not to react.

Further, Uchigaki requires the presence of a reactive component in the taught composition. See column 6, lines 3-20. The Office Action alleges that the presence of the reactive component does not interfere with the invention. This allegation is without basis and is contrary to what is taught by Uchigaki. The reference teaches that "when the proportion of urethane prepolymer (A) [the reactive component] is lower than 20 wt%, the adhesive is hard and brittle even though the reaction is completed after application between the substrates." See column 6, lines 11-14. Thus, one of skill in the art would be dissuaded from not including the reactive component into the taught composition.

Furthermore, the object of the invention was to provide a reactive hot-melt adhesive. Thus, by not including a reactive component, one would work contrary to the objectives of the reference. The reference does not provide motivation for one of ordinary skill in the art to work contrary to its objectives.

The Office Action also alleges that it would have been obvious to raise the coating

temperature to 140°C, if the viscosity was too high at lower temperatures. Applicants also respectfully disagree with this allegation. Uchigaki teach that the adhesive compositions are used by heating the three components to 100°C to 130°C, preferably about 120°C, to form a molten mixture. See column 8, lines 4-8. 140°C or above are clearly outside of the taught range. The reference further teaches that “it has been proposed to decrease the viscosity of the melted adhesive composition by rising the temperature during coating. However, the thermal stability of the components of the melt adhesive compositions is limited... It has thus been difficult to modify viscosity, the physical strength or the temperature dependency of ... adhesives.” See column 1, lines 59-67. Thus, one would not be motivated to increase the temperature to decrease viscosity as the reference teaches that this would be unsuccessful because of the limited thermal stability of the composition.

The claims of the present invention are not anticipated, nor are they obvious over the cited prior art. Reconsideration is respectfully requested.

The Second Claim Rejection under 35 USC § 102 and 103

Claims 1-21 were rejected as allegedly anticipated, in the alternative, obvious over ATO Findley S.A., WO97/12007, hereinafter 007. Applicants respectfully disagree.

007, as alleged, teaches 2-ethylhexyl acrylate, 2-EHA, in claim 3. However, this teaching is in the context of a list of ethylene/alkyl acrylate. Claim 3 includes methyl acrylate and butyl acrylate as well. 007 also teaches that butyl acrylate is preferred. See page 2, lines 36-37. Examples 1, 2, 4, 6, and 9 are directed to adhesives containing butyl acrylate. Example 12 is directed to an adhesive containing methyl acrylate. Nowhere does the reference exemplify an embodiment containing 2-EHA. Nowhere does the reference teach or suggest that 2-EHA would be preferred, or would perform better than butyl acrylate, for example. Thus, one of skill in the art would not have been motivated to use 2-EHA over butyl acrylate, for example.

Furthermore, one of skill in the art would not have expected that 2-EHA would perform the same, or even similarly, to the taught non-cyclic alkyl groups that were exemplified. The reference does not teach, nor suggest, that alkyl groups having more than 5 carbon atoms would provide adhesive properties essentially similar to SIS or SBS, while having better loop track, a better finger tack and a better level of peeling than ethylene/butyl acrylate copolymers, as taught by the specification of the current application on page 3, lines 1-8. The present specification on page 3, lines 9-14 also teaches that 2-EHA specifically contribute better low-temperature

behavior in comparison with butyl or ethyl acrylate, the two exemplified acrylates of 007, and that 2-EHA type adhesives according to the invention can be applied at low temperature (cold melt), for example 130 to 150°C.

The examples fully support these conclusions. See, for example, tables 1-7 on pages 15-21. The data in each table is paired up in such a way that each 2-EHA containing adhesive is compared to a butyl acrylate containing adhesive that has a similar melt flow index, MFI. For example, in Table 1, the results of E/2-EHA/5 are placed next to the results for 35 BA 40. The melt flow indexes of these two compositions is 45 and 40 respectively, see pages 13 and 14 for MFI values for each product. A description of each test can be found in the specification. Therefore, applicants do not reproduce the same here. For the adhesives in accordance with the invention, Table 1 demonstrates improved results for the peel test; Table 2 demonstrates improved results for the loop tack test, and demonstrates the same or better results for the finger tack test; Table 3 demonstrates improved results for the peel test; and Table 4 demonstrates improved results for the rolling ball tack test. Applicants also provide examples wherein in each case two ethylene/alkyl (meth)acrylates are mixed together, however, in each case, the compositions only contain ethylene/alkyl (meth)acrylates either in accord with the invention or not in accord with the invention. The mixtures are once again paired up in each table so that one can easily compare each result to the corresponding example. Table 5 demonstrates improved results for finger track, and while the results are mixed for the remaining tests, more often than not, improved results are seen in the static creep test and the rolling ball tack test; Table 6 demonstrates improved results for the peel test on stainless steel, and while the results are mixed for the remaining tests, more often than not, improved results are seen in the peel test on glass; and Table 7 demonstrates, while the results are mixed for all the tests, i.e., the loop tack test on stainless steel and on glass, more often than not, improved results are seen in all the test; for the adhesives in accord with the invention. One of skill in the art would not have expected these advantages based on the disclosure of 007. Thus, the invention is not anticipated or obvious over 007.

Applicants bring the attention of the Patent Office to *In re Kalm*, 154 USPQ 10, 378 F.2d 959 (CCPA 1967). The reference in that case had a narrow general disclosure for a class of compounds. The compounds were taught to be central nervous system *stimulants*. The applicant taught two compounds falling within the scope of the claims of the reference, however these compounds were taught to be central nervous system *depressants*. The court looked to the

narrowed genus defined with the aid of the reference's examples, which did not include the later claimed compounds. The situation is similar in this case, where the reference teaches a list of possible ethylene/alkyl (meth)acrylates, but does not exemplify any claimed ethylene/alkyl (meth)acrylate, much less the presently claimed 2-EHA. Thus, by constructing a genus based on the examples, one can conclude that the reference does not teach or suggest the claimed invention.

The court in *In re Kalm*, supra, went on to state that it was evident that the reference never made and/or tested the claimed compounds, otherwise the reference would have reported the results, as logic dictates that one could not have failed to report such seemingly inconsistent results. The situation is similar in this case. Logic dictates that if the authors of 007 would have made and/or tested an adhesive composition falling within the claims of the present invention, they would have reported the improvement discussed above. Thus, as the court concluded in *In re Kalm* in a similar situation, the claims in the present case are not anticipated, nor obvious, over the cited prior art.


To provide a fuller story, subsequent decisions of the CCPA, the predecessor of the Federal Circuit, have fully supported the holding of *In re Kalm*., even though holding contrary to it because of the specific facts of the cases. See, for example, *In re Wilder*, 166 USPQ 545 (CCPA 1970) and *In re Schaumann*, 197 USPQ 5 (CCPA 1978). In *Wilder*, the court held contrary to *Kalm*, distinguishing the reference because the evidence submitted quite reasonably also permitted the inference that the patentee might only have been unaware of a particular property of the compound he did, in fact, disclose, which proof fell short of defeating a case of anticipation. The evidence in this case is much stronger than in the *Wilder* decision. In *Schaumann*, the court held contrary to *Kalm*, distinguishing the reference because the reference had only a very limited number of compounds, allegedly seven, closely related to one another in structure, and sharing similar properties, although not all properties were the same. In the present case the compounds are not so closely related in structure as discussed previously. Thus, applicants submit that the presently claimed invention is fully patentable and is not anticipated, nor obvious over the cited prior art.

Reconsideration of all the rejections is respectfully and courteously requested. Applicants believe that the claims are patentably distinct from the prior art, and that the claims are in a form ready for allowance, but if there are any residual issues which can be expeditiously resolved by a telephone conference, the Examiner is courteously invited to telephone Counsel at the number indicated below.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **"Version With Markings To Show Changes Made."**

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



Csaba Henter (Reg. No. 50,908)
Harry B. Shubin (Reg. No. 32,004)
Attorneys for Applicant(s)

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
Arlington Courthouse Plaza I, Suite 1400
2200 Clarendon Boulevard
Arlington, Virginia 22201
(703) 812-5331 [Direct Dial]
Internet Address: henter@mwzb.com

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Version With Markings To Show Changes Made

In the Claims

The claims have been amended as follows:

17. (Amended) A pressure sensitive adhesive composition according to Claim 15, wherein the tackifying resin is selected from the group consisting of ~~resin, resin-derivatives~~ rosin, rosin-derivatives, polyterpenes, polyterpene derivatives, petroleum resin and hydrogenated cyclic resin, said tackifying agent having a ring and ball softening temperature of between 25° and 180°C.

20. (Amended) A pressure sensitive adhesive layer according to Claim ~~17~~ 18, wherein the tackifying resin is selected from the group consisting of ~~resin, resin-derivatives~~ rosin, rosin-derivatives, polyterpenes, polyterpene derivatives, petroleum resin and hydrogenated cyclic resin, said tackifying agent having a ring and ball softening temperature of between 25° and 180°C.

23. (Amended) A pressure sensitive adhesive layer according to claim 22, ~~prepared~~ prepared by a process comprising applying to the substrate molten non-reactive pressure sensitive hot melt adhesive composition.

Claim 24 has been newly entered.